



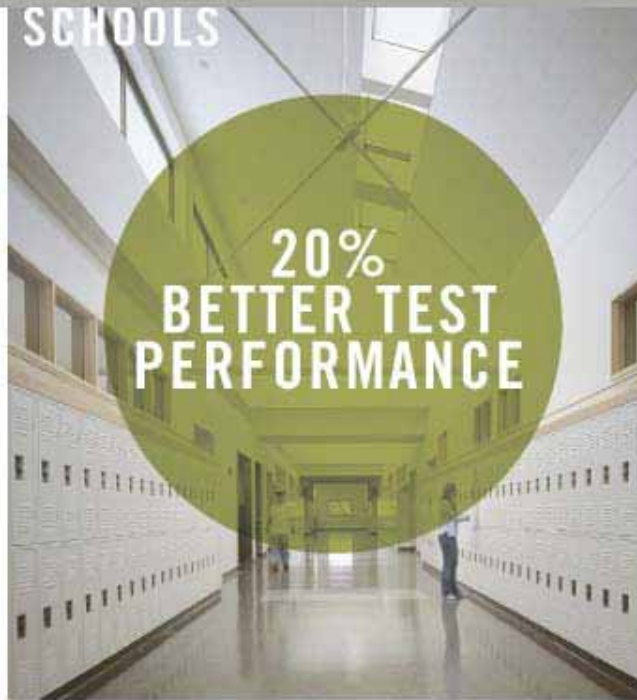
Rick Fedrizzi

President, CEO and Founding Chairman

Increased
Productivity.

SCHOOLS

20%
BETTER TEST
PERFORMANCE



Increased
Productivity.

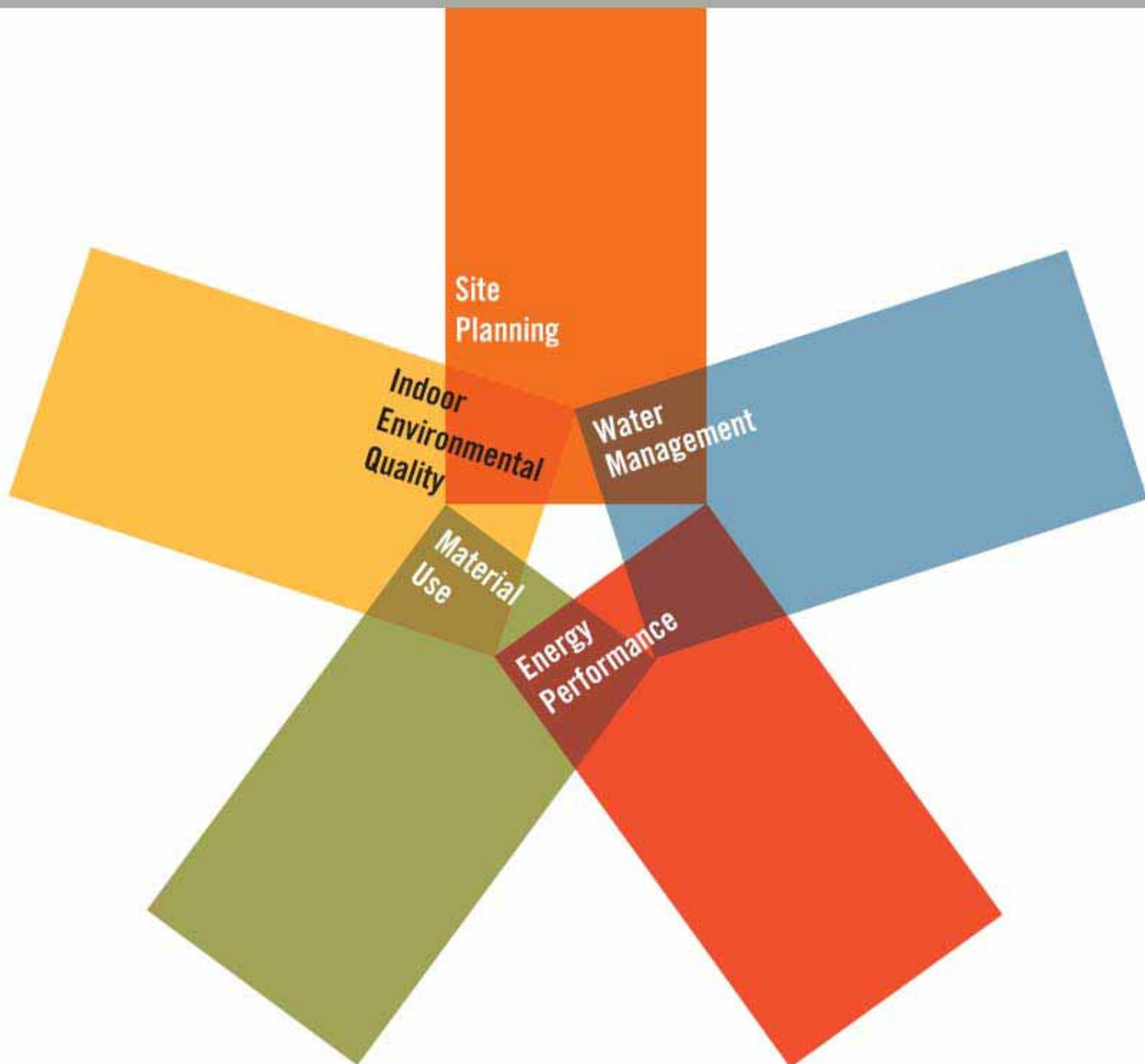
SCHOOLS

20%
BETTER TEST
PERFORMANCE

HOSPITALS

2 1/2 DAY
EARLIER
DISCHARGE

What is Green Building?
Design and construction practices that meet specified standards, resolving much of the negative impact of buildings on their occupants and on the environment.



PERCEPTION



REALITY

Bank of America Tower
at One Bryant Park
The Durst Organization
Cook+Fox Architects
New York NY
LEED-NC Registered:
Platinum Certification goal



Financially
feasible

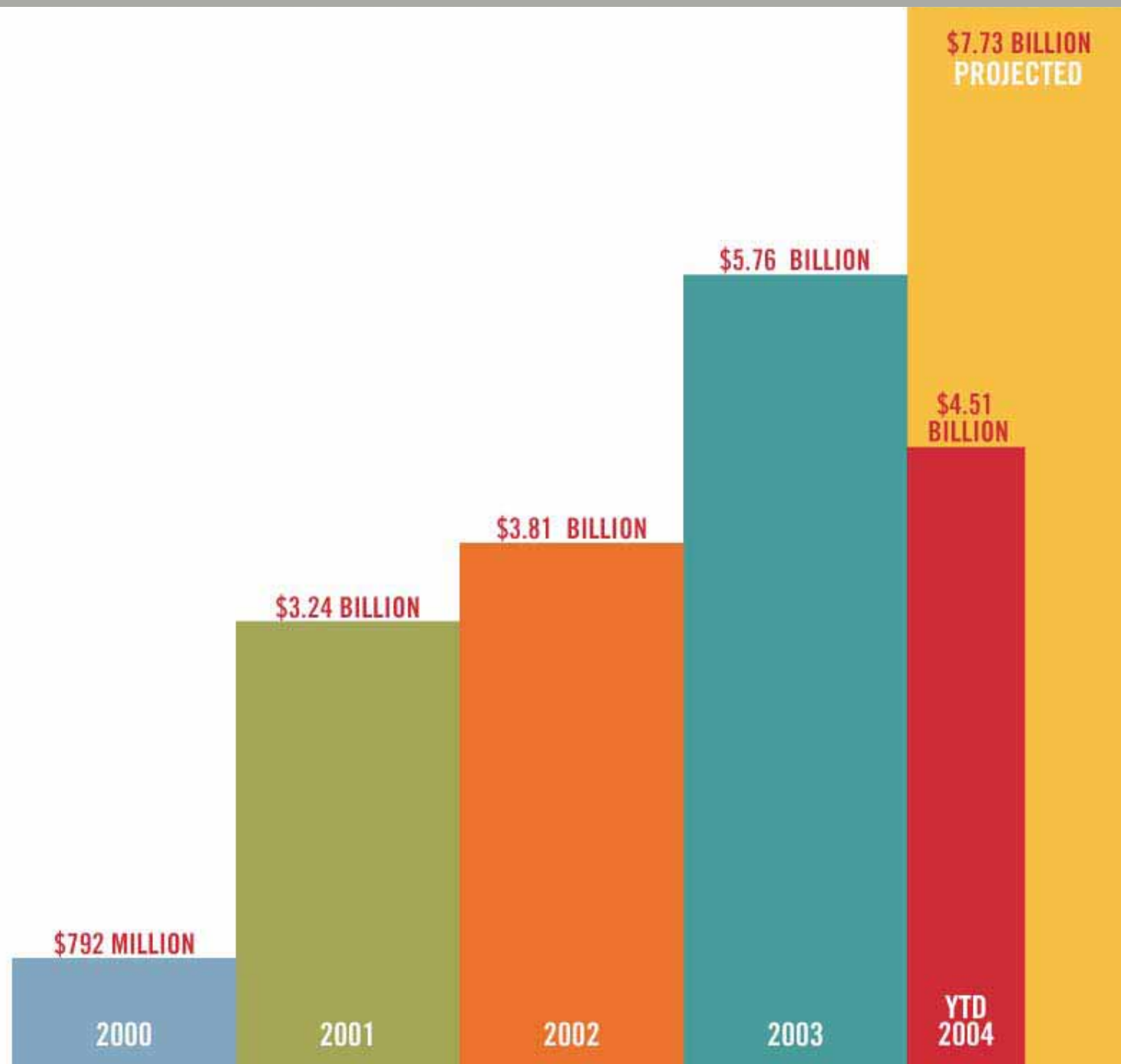
Economically
imperative

Bank of America Tower
at One Bryant Park
The Durst Organization
Cook+Fox Architects
New York NY
LEED-NC Registered:
Platinum Certification goal

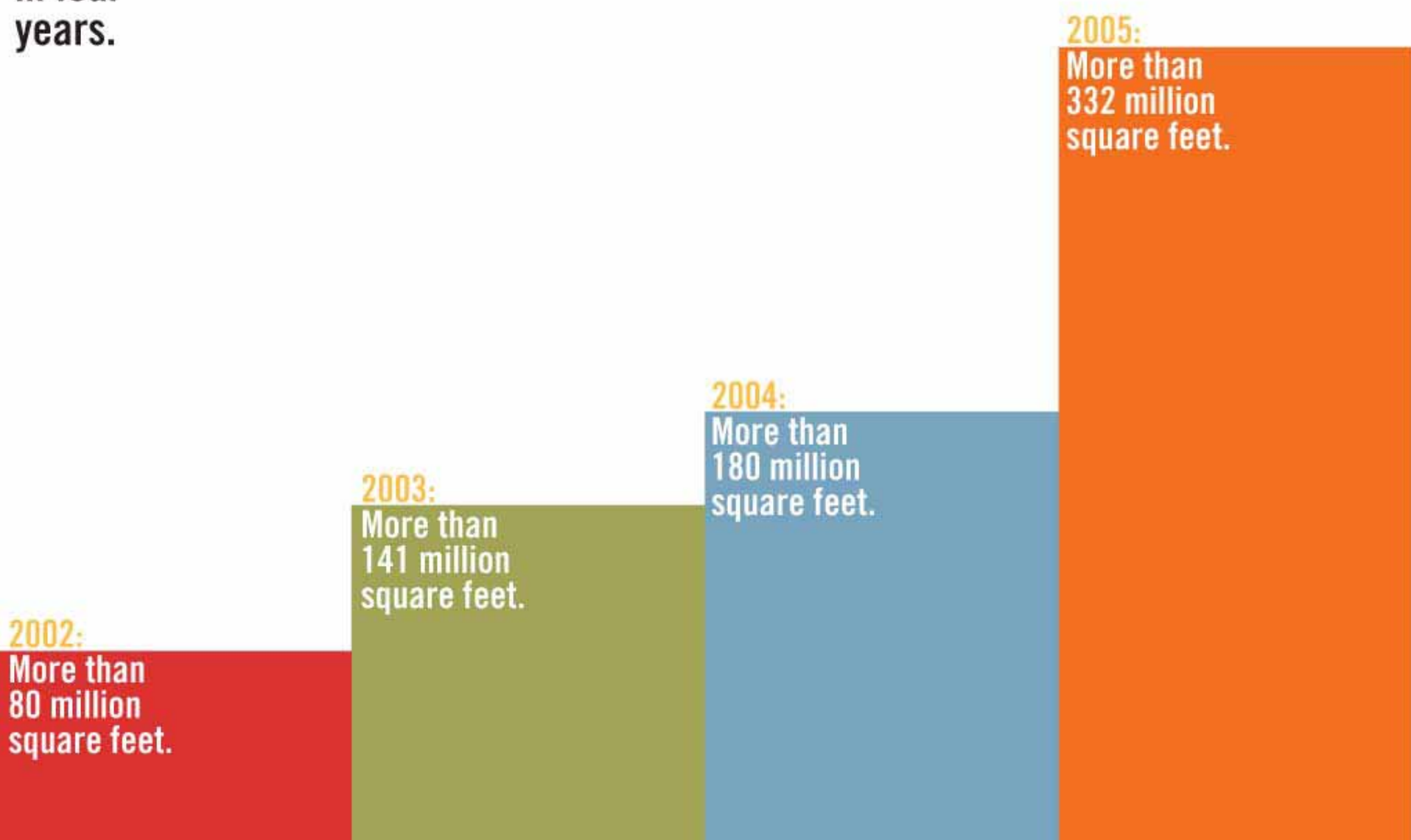


Estimated value
of new LEED-NC
registered
projects.

The value of
U.S. construction
starts significantly
declined by
almost half from
2000 to 2003.



Increase in LEED Projects in four years.



Case Study National Geographic Society

National Geographic
Society Headquarters
Complex
Washington DC
Commercial Office
LEED-EB Silver
Pilot Project



Case Study National Geographic Society

National Geographic
Society Headquarters
Complex
Washington DC
Commercial Office
LEED-EB Silver
Pilot Project

HIGHER:

1. Appraised value
2. Tenant rates
3. Credit rating

LOWER

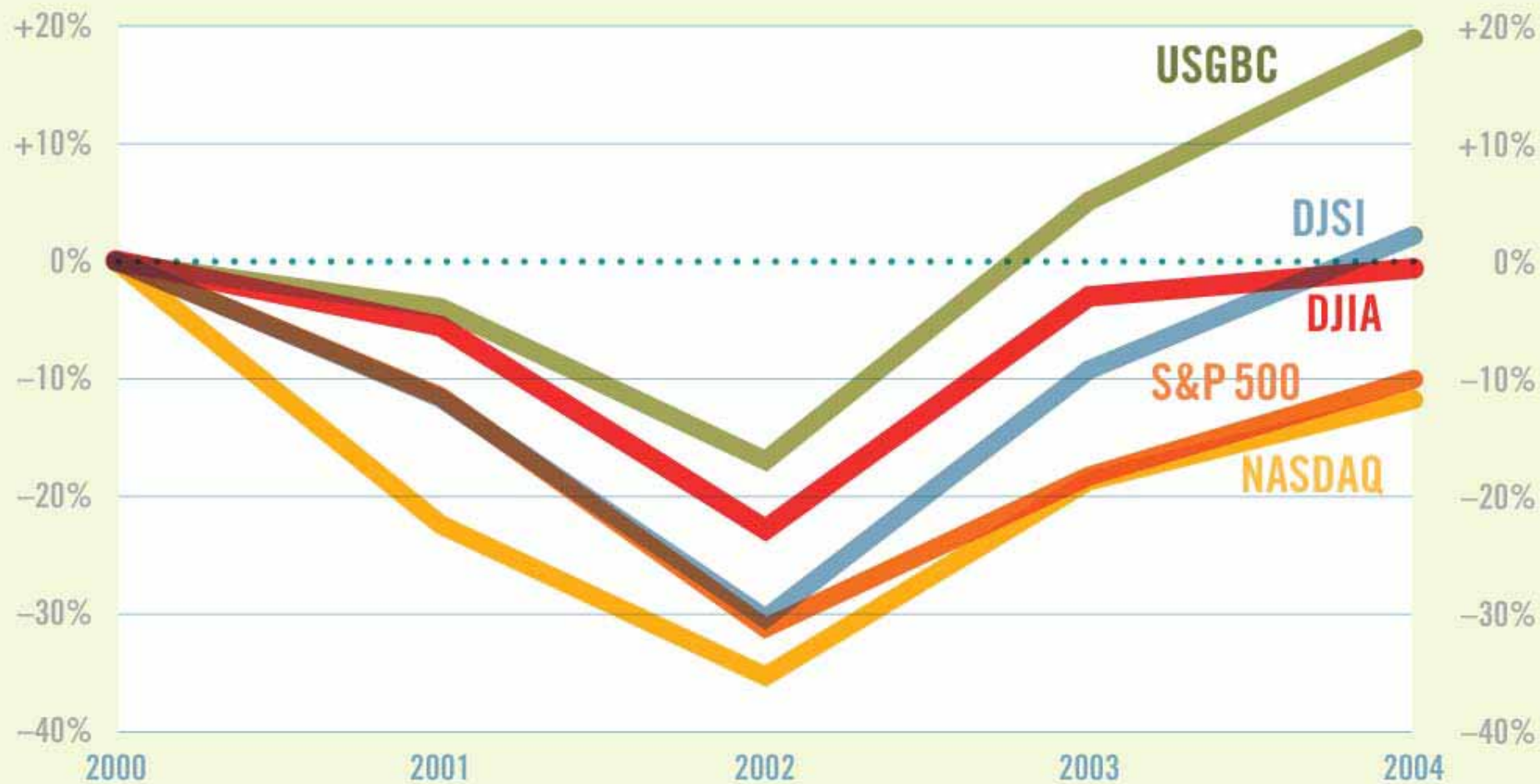
1. Interest rates on debt
2. Waste disposal costs
3. Operating costs

24 million
dollars in
ADDED VALUE
for a
6 million dollar
investment



LEED Companies Financial Performance

Comparison of Publicly Traded
USGBC Weighted by Market Cap
vs. Market Averages

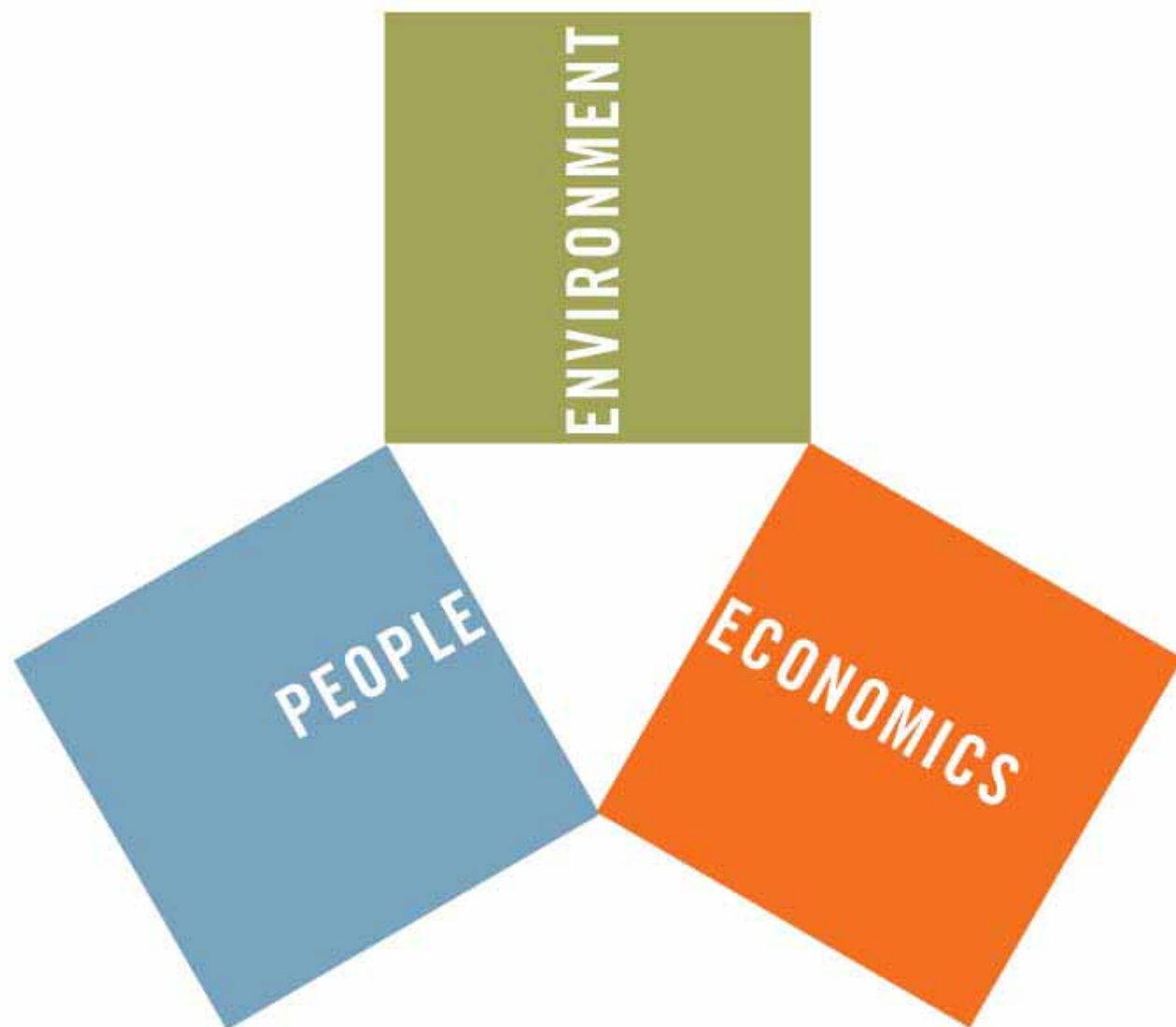


The Triple Bottom Line.



The Triple Bottom Line.

Reduced Environmental Impact.
Peak Efficiency.
Improved Capitalization Rates.
Increased Marketability.
Higher Lease Rates.
Improved Productivity.
Reduced Absenteeism.
Build Green.
Everyone Profits.



THE RATIONALE



Green roof at
Ford Rouge
Ford Motor Company
Dearborn MI
LEED-NC Gold



Results of the California Study

33

Diverse Buildings

Built over the last

10 years

Cost construction premiums of

1.8%



Results of the California Study

5=\$0

Five buildings had no cost increase at all.

EPA Science and
Technology Center
Kansas EPA
Kansas City KS
LEED-NC Gold



Results of the California Study: Average Bottom Line Savings

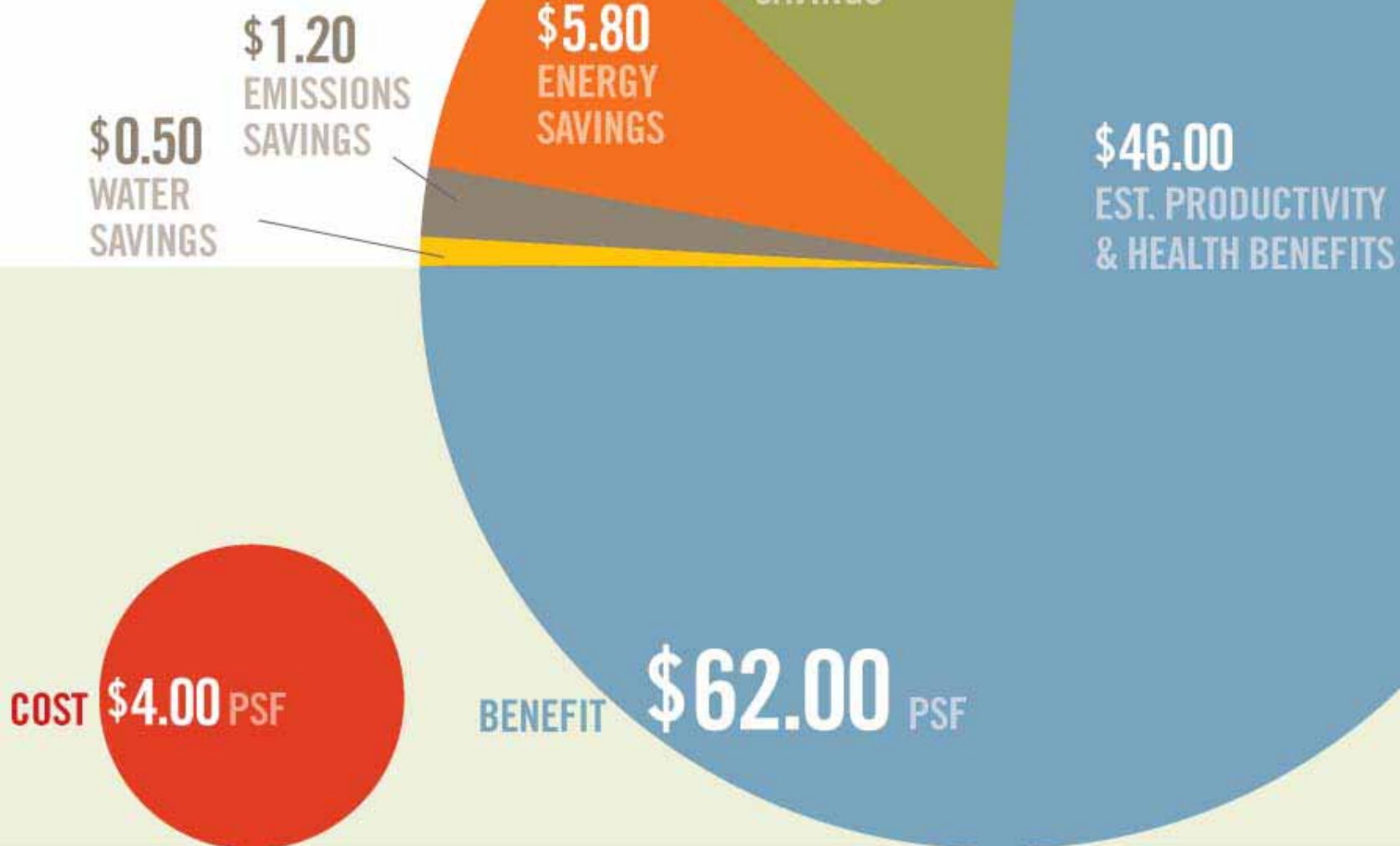
GREEN IMPROVEMENTS PAY FOR
THEMSELVES IN **3** YEARS

(ANNUAL RETURN ON INVESTMENT IS 25–40%)

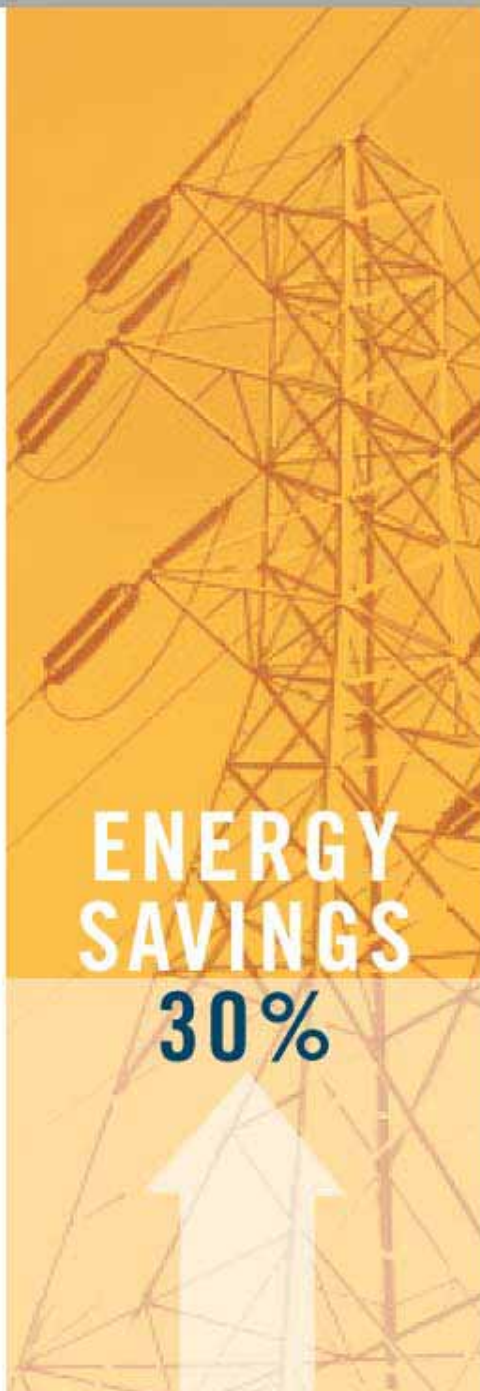
The William and
Flora Hewlett
Foundation
Menlo Park CA
LEED-NC Gold



A \$4 investment per square foot
in building green nets
a \$58 benefit per square foot
over 20 years



Results of the California Study: Average Bottom Line Savings



Case Study

Brewery Blocks, Block 4

Gerding/Elden
Development Co., LLC
Portland, Oregon
Commercial Office
LEED-CS
Pilot Project



Case Study Brewery Blocks, Block 4

Gerding/Elden
Development Co., LLC
Portland, Oregon
Commercial Office
LEED-CS
Pilot Project

85% leased
in one year—at above
market rates

21.5%
energy performance
improvement
(with anticipated annual
savings of \$58,700)

25%
water use reduction
(including no permanent irrigation
systems and a 25% reduction in
stormwater leaving site)

Numerous local awards



Case Study Landmark Building

Harvard School
of Public Health
Boston MA
Office Renovation
LEED-CI
Pilot Project



Case Study Landmark Building

Harvard School
of Public Health
Boston MA
Office Renovation
LEED-CI
Pilot Project

20% reduction
in water use

40% reduction
in lighting demand

50% of
construction waste
diverted from landfills

Estimated savings
in energy coupled
with productivity gains
resulted in a
**ten-month
payback**
for green features.



Case Study Toyota Motor Sales

South Campus
headquarters
Torrance CA
Commercial
Office Renovation
LEED-NC Gold



Case Study Toyota Motor Sales

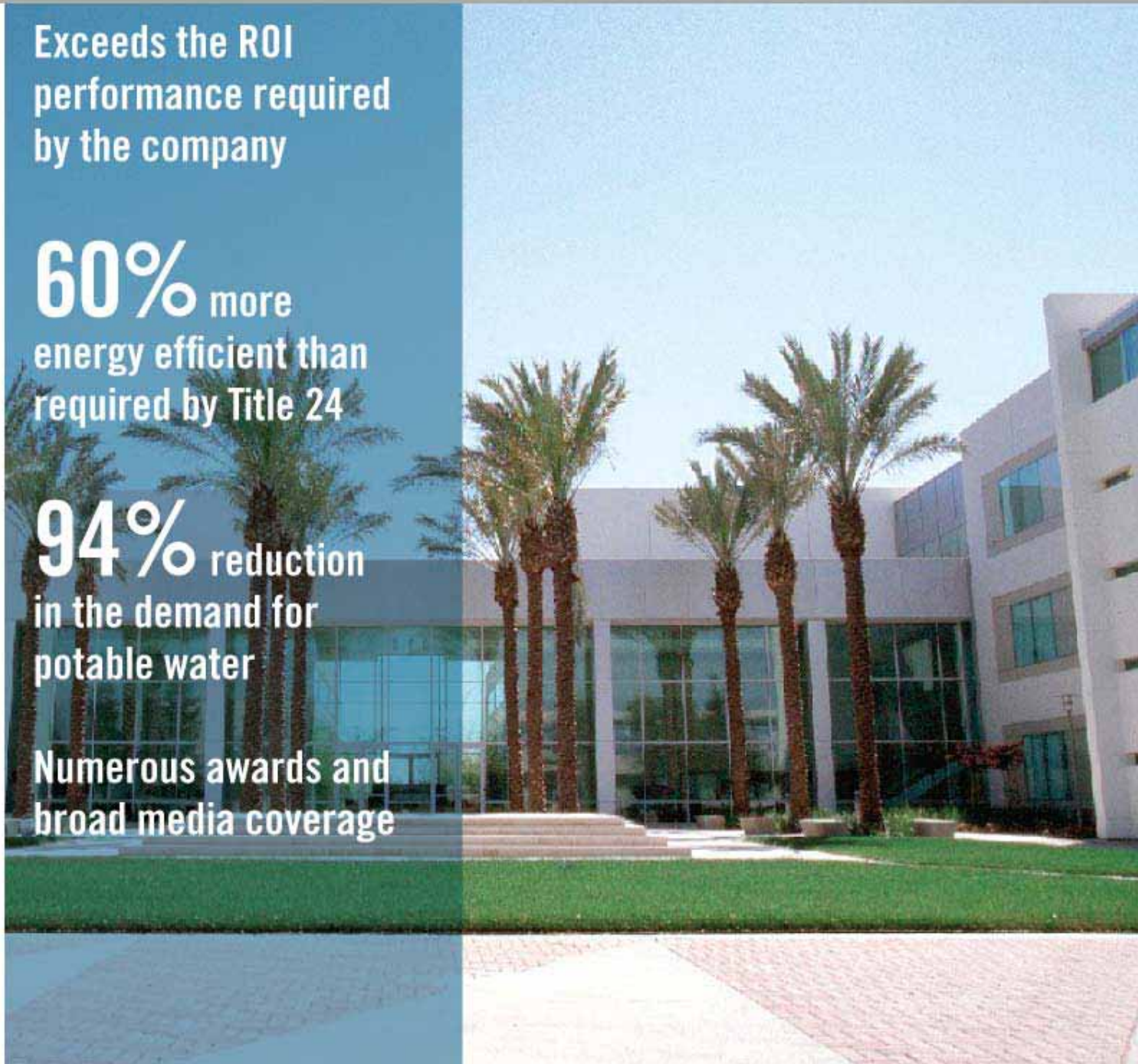
South Campus
headquarters
Torrance CA
Commercial
Office Renovation
LEED-NC Gold

Exceeds the ROI
performance required
by the company

60% more
energy efficient than
required by Title 24

94% reduction
in the demand for
potable water

Numerous awards and
broad media coverage



Additional constructions costs for LEED-certified buildings

Average for offices and schools, based on 40 buildings

Conventional Building Cost (100%)

Additional Cost

PLATINUM

(2 buildings)

6.8%

GOLD

(9 buildings)

2.2%

SILVER

(21 buildings)

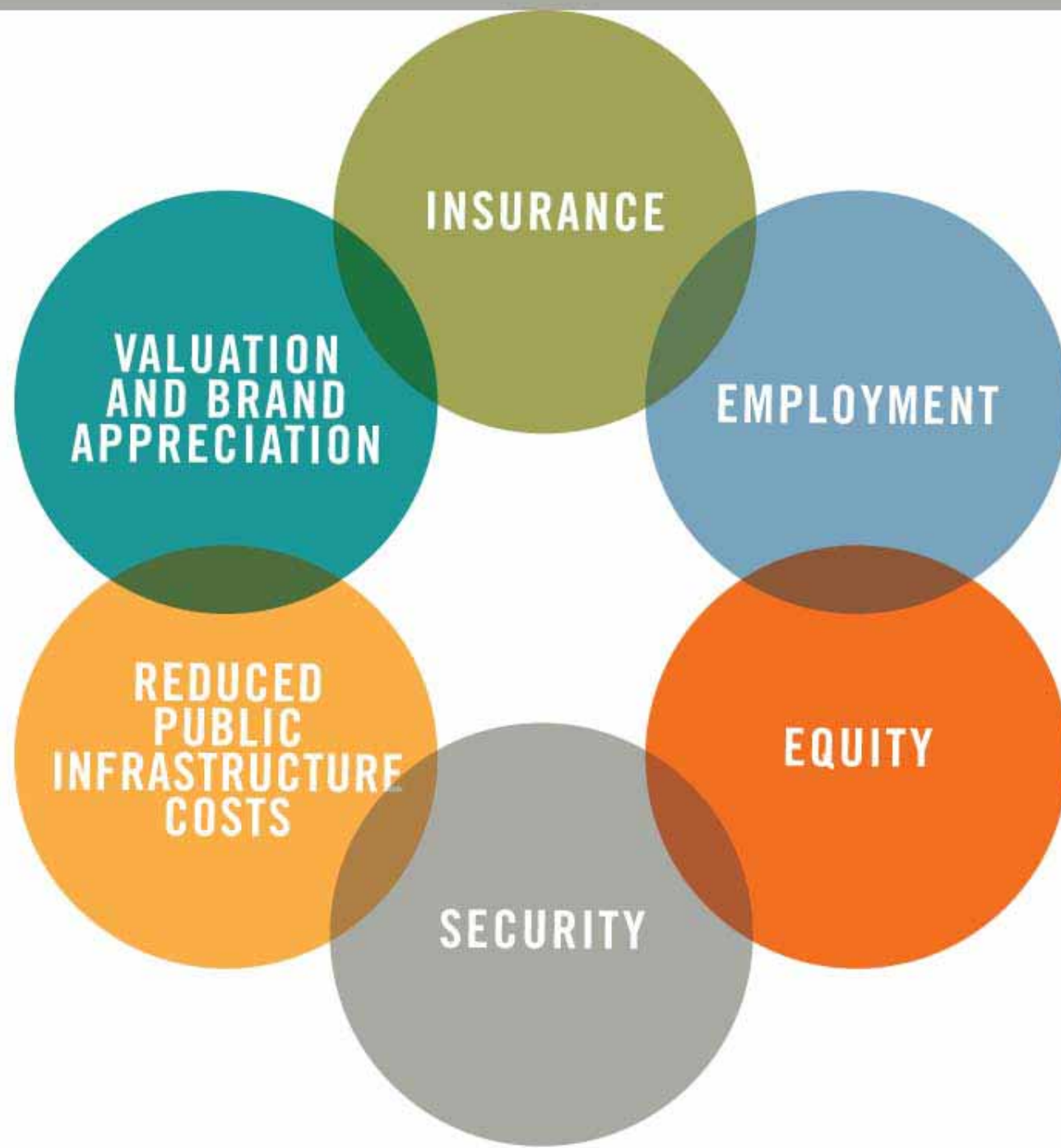
1.9%

CERTIFIED

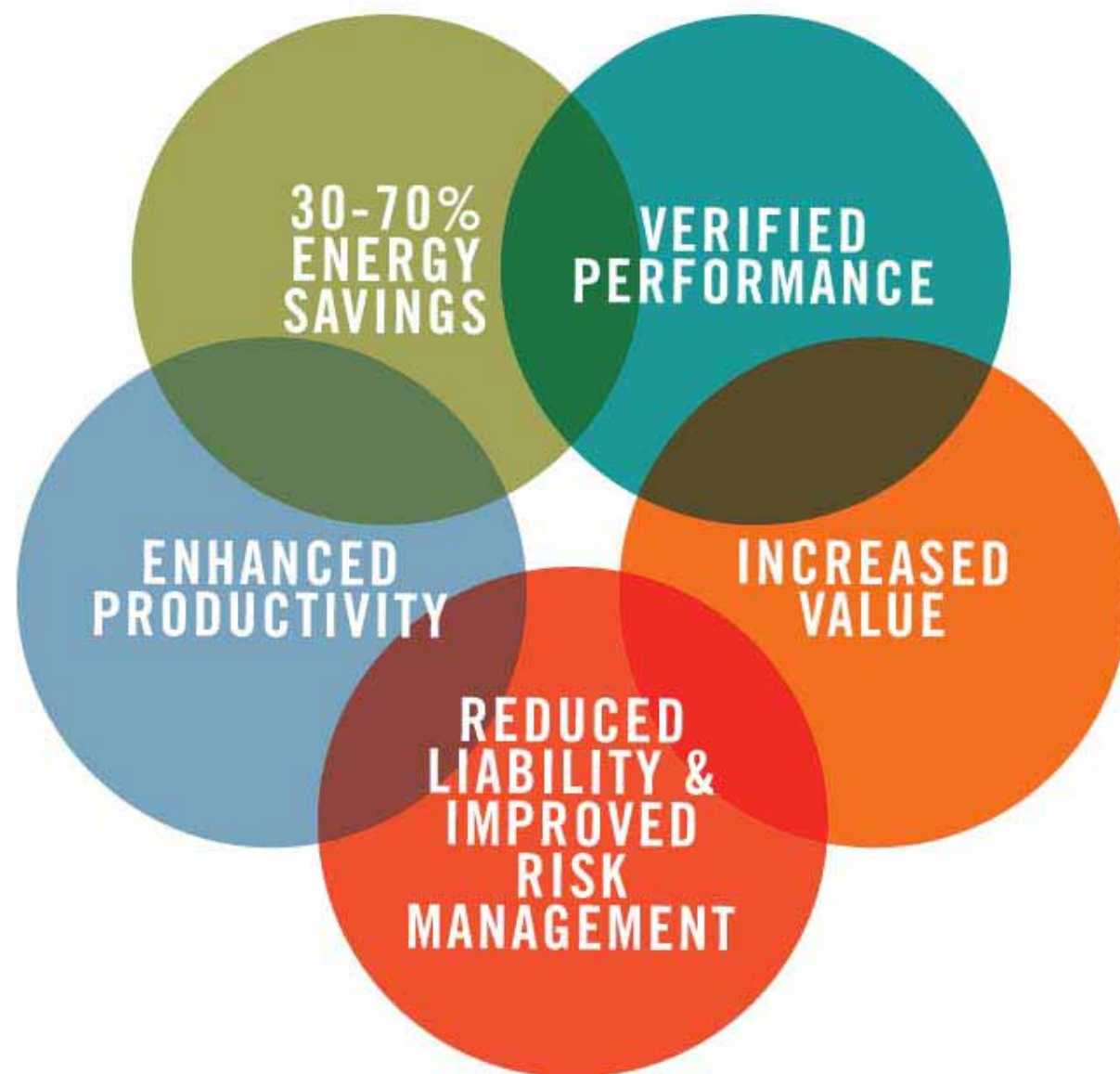
(8 buildings)

.66%

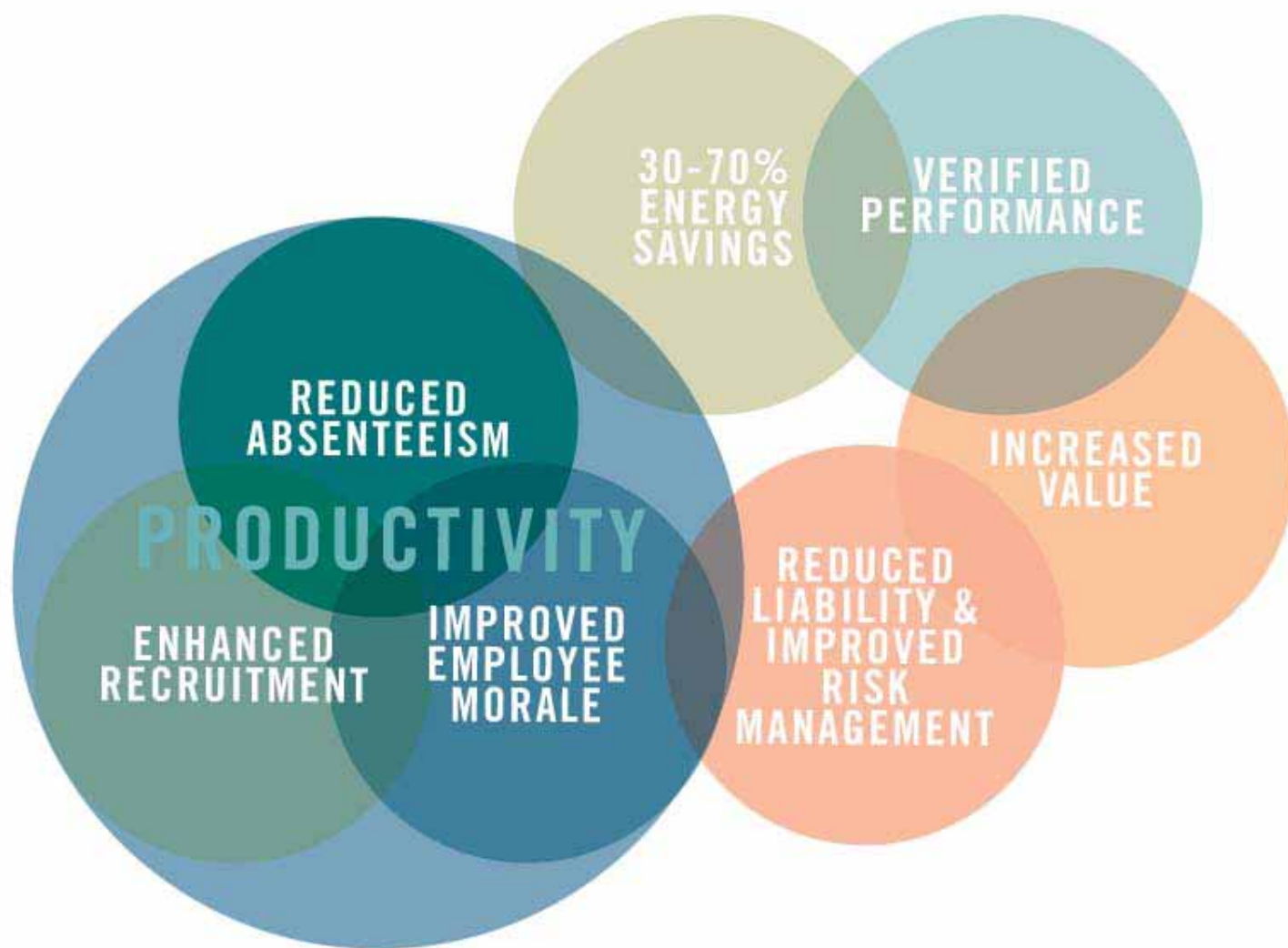
Additional benefits



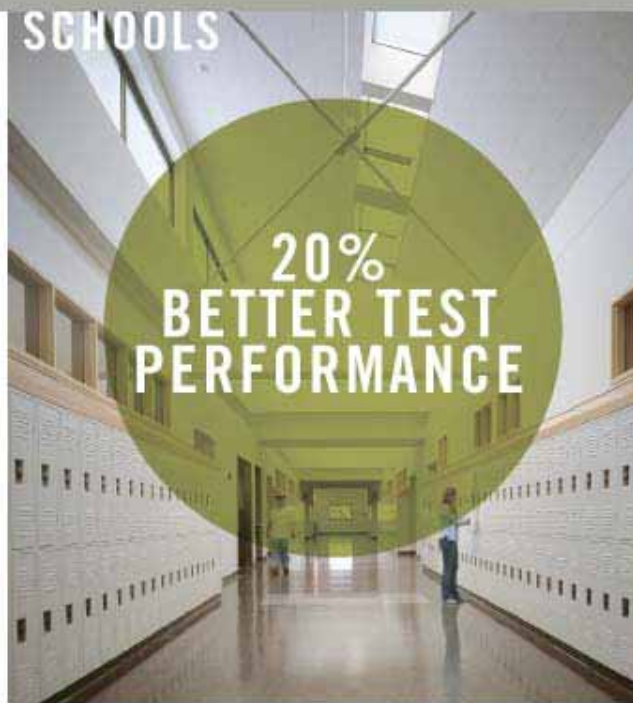
Improved Bottom Line.



Improved Bottom Line.



Increased
Productivity.



Increased Productivity.

SCHOOLS

20%
BETTER TEST
PERFORMANCE

HOSPITALS

2 1/2 DAY
EARLIER
DISCHARGE

**Increased
Productivity.**

SCHOOLS

**20%
BETTER TEST
PERFORMANCE**

HOSPITALS

**2 1/2 DAY
EARLIER
DISCHARGE**

RETAIL

**INCREASE
IN SALES
PER SQUARE
FOOT**

**Increased
Productivity.**

SCHOOLS

**20%
BETTER TEST
PERFORMANCE**

HOSPITALS

**2 1/2 DAY
EARLIER
DISCHARGE**

RETAIL

**INCREASE
IN SALES
PER SQUARE
FOOT**

FACTORIES

**INCREASED
PRODUCTION**

**Increased
Productivity.**

SCHOOLS

**20%
BETTER TEST
PERFORMANCE**

HOSPITALS

**2 1/2 DAY
EARLIER
DISCHARGE**

RETAIL

**INCREASE
IN SALES
PER SQUARE
FOOT**

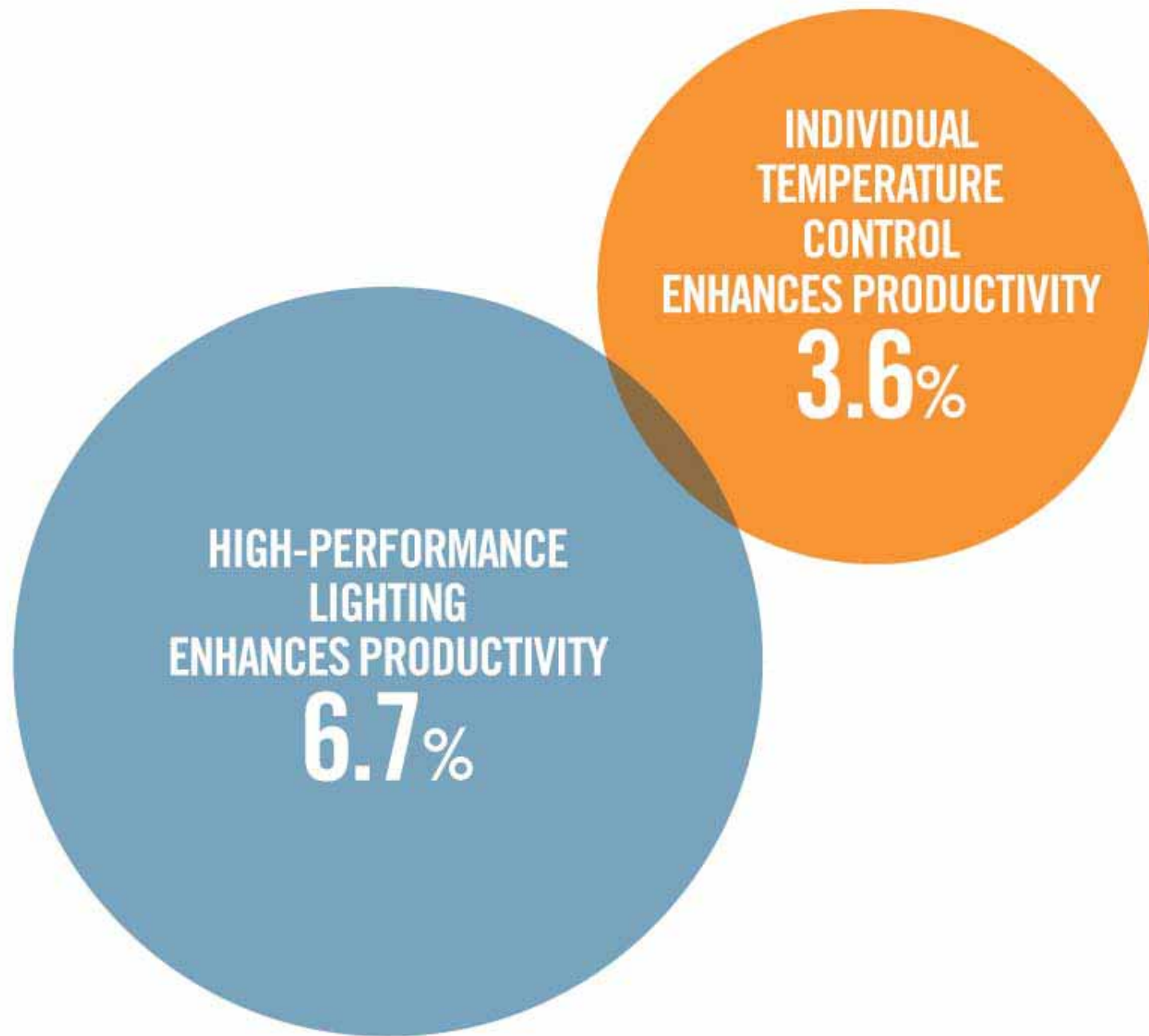
FACTORIES

**INCREASED
PRODUCTION**

OFFICES

**2-16%
PRODUCTIVITY
INCREASE**

Average productivity gains



Source:
Carnegie Mellon
University Center
for Building
Performance,
2005



Health gains from improved Indoor Air Quality

As indicated by
reduced symptoms for
flu, asthma, allergies,
respiratory infections,
headaches, and colds.

**FRESH
AIR**

41%
fewer
symptoms

**POLLUTANT
FILTER**

42%
fewer
symptoms

**MOISTURE
CONTROL**

44%
fewer
symptoms

Source:
Carnegie Mellon
University Center
for Building
Performance,
2005



USGBC



Architects

Building
Owners

Federal,
Local,
and State
Governments

Product
Manufacturers

Planners

Contractors

USGBC

Engineers

Financial
Reps

Utility
Managers

Interior
Designers

Building
Tenants

Landscape
Architects

Property
Managers

Code
Officials



Who are we?

USGBC is a coalition of the country's foremost leaders from across the building industry.

We promote buildings that are:

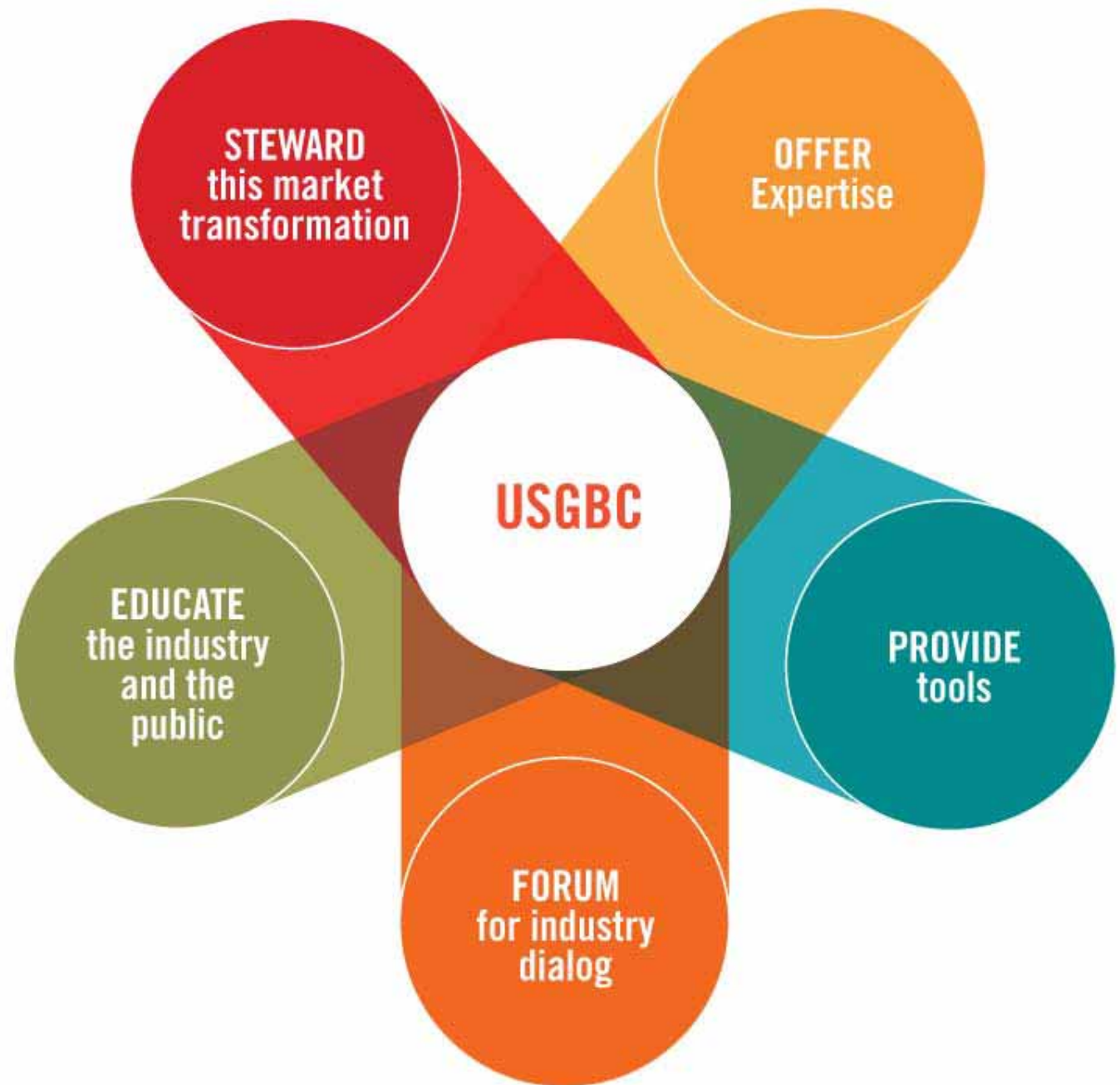
- 1. Environmentally Responsible**
- 2. Economically Profitable**
- 3. Healthy Places to Live and Work**



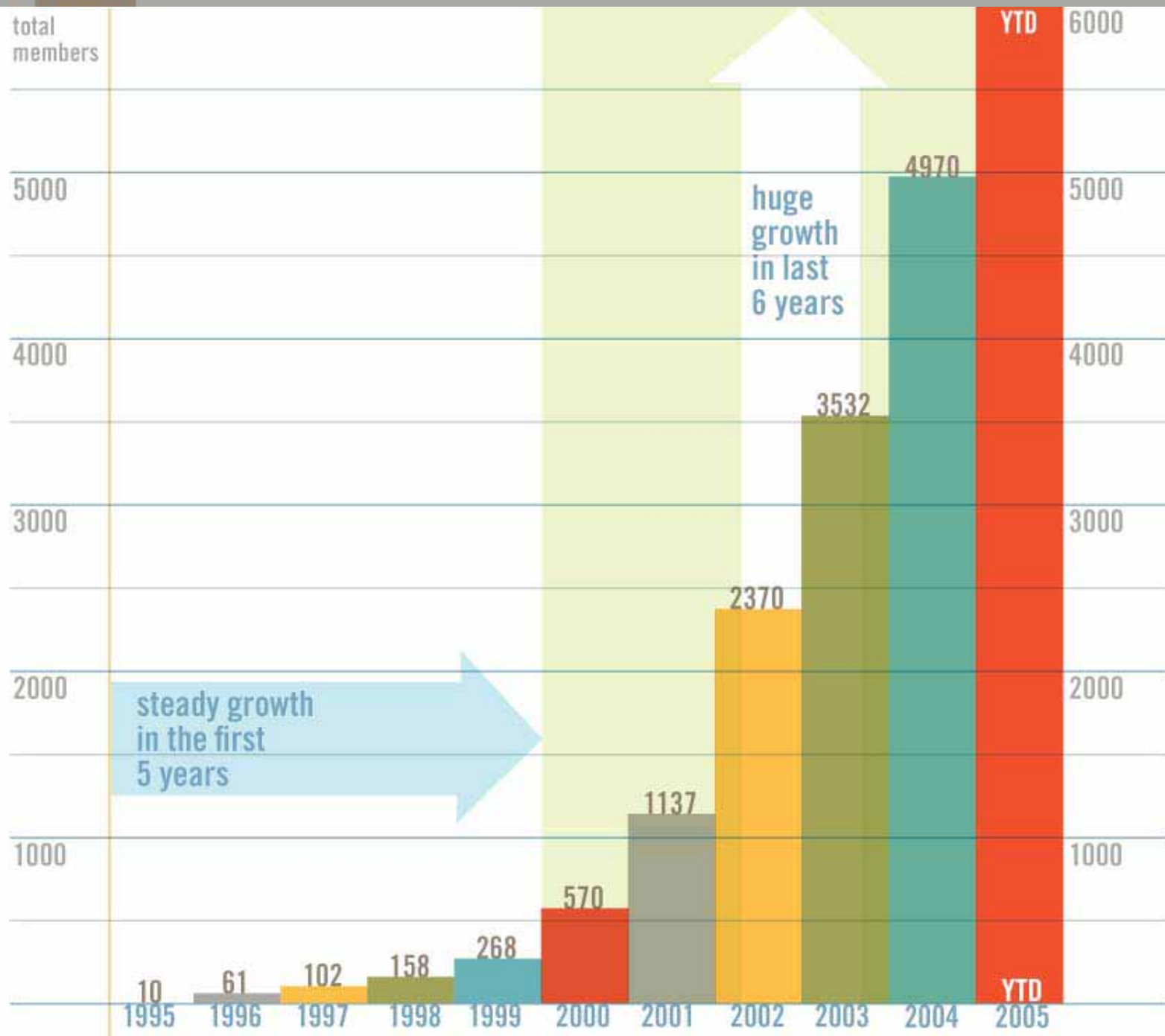
What is our role?



What is our role?



USGBC membership growth.



What is the LEED System?

LEADERSHIP in ENERGY and ENVIRONMENTAL DESIGN

A leading-edge
system for
certifying
DESIGN &
CONSTRUCTION
of the greenest
buildings in the
world



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of the greenest
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world

Scores are tallied for
different aspects of
efficiency and design in
appropriate categories.

For instance, LEED-NC
(New Construction) is
assessed in detail for its:

1. Site Planning
2. Water Management
3. Energy Management
4. Material Use
5. Indoor
Environmental
Quality
6. Innovation &
Design Process



Sustainable Sites

Erosion and Sedimentation Control

Age of Building

Green Site and Building Exterior Management

High Development Density Building and Area Alternative Transportation

Reduced Site Disturbance

Stormwater Management

Heat Island Reduction

Light Pollution Reduction



Sustainable Sites

Efficient Water Use



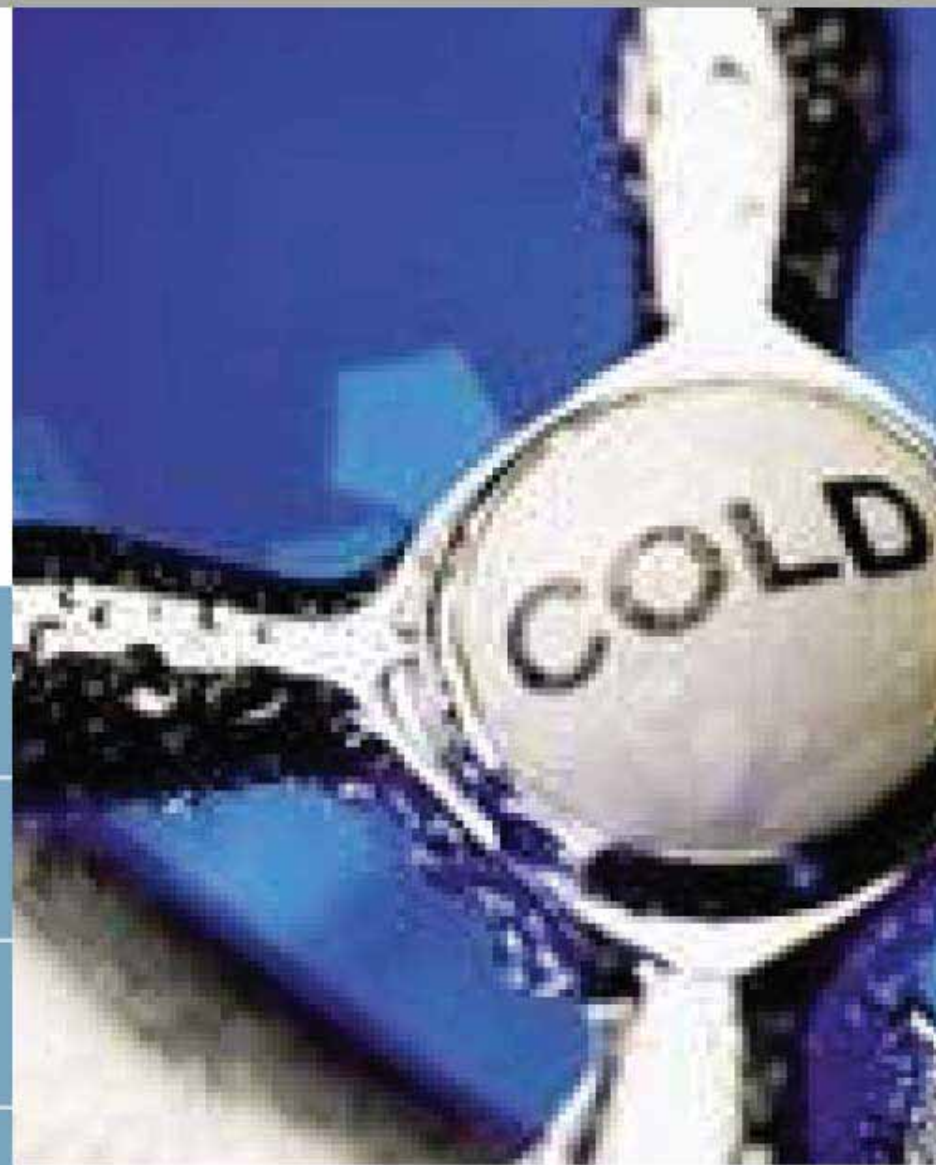
Minimum Water
Efficiency

Discharge Water
Compliance

Water Efficient
Landscaping

Innovative Wastewater
Technologies

Water Use Reduction



Sustainable Sites

Efficient Water Use

Energy & Atmosphere



Existing Building Commissioning

Minimum Energy Performance

Ozone Protection

Optimize Energy Performance

On/Off Site Renewable Energy

Building O&M

Additional Ozone Protection

Performance Measurement

Documenting Cost Impacts



Sustainable Sites

Efficient Water Use

Energy & Atmosphere

Materials & Resources



Source Reduction & Waste Management

Toxic Material Source Reduction

Construction Waste Management

Optimized Use of Alternative Materials

Optimized Use of IAQ Compliant Products

Sustainable Cleaning Products

Occupant Recycling

Additional Toxic Material Source Reduction

Recycled Content



Sustainable
Sites

Efficient
Water Use

Energy &
Atmosphere

Materials &
Resources

Indoor
Environmental
Quality



Outside Air Exhaust

Tobacco Smoke Control

Asbestos/PCB Removal

Outdoor Air
Delivery Monitoring

Increased Ventilation
Construction

IAQ Management Plan

Documenting
Productivity Impacts

Indoor Chemical &
Pollutant Source Control

Controllability of Systems

Thermal Comfort

Daylighting & Views

Contemporary IAQ Practice

Green Cleaning



Sustainable
Sites
Efficient
Water Use
Energy &
Atmosphere
Materials &
Resources
Indoor
Environmental
Quality
Innovation



Up to 5 additional credits

LAP: 1 Credit

Innovation: 1–4 Credits



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3. Energy Management
4. Material Use
5. Indoor
Environmental
Quality
6. Innovation &
Design Process

Green Facts

John M. Langston High School
Continuation & Langston-Brown
Community Center
Arlington, Virginia

LEED-NC rating out of 69

Silver 35

Sustainable Site 8

Water Efficiency 3

Energy & Atmosphere 4

Materials & Resources 6

**Indoor Environmental
Quality 11**

Innovation & Design 3

USGBC LEED-NC rated Sept. 3, 2003.



Levels of LEED Ratings

Green Buildings
worldwide are defined
and certified with
consensus-based
standards.

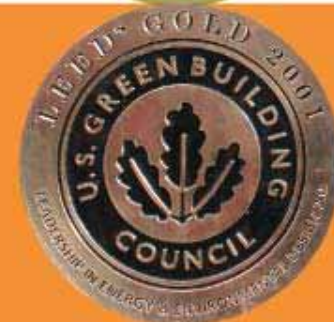
USGBC has four
levels of LEED.

PLATINUM

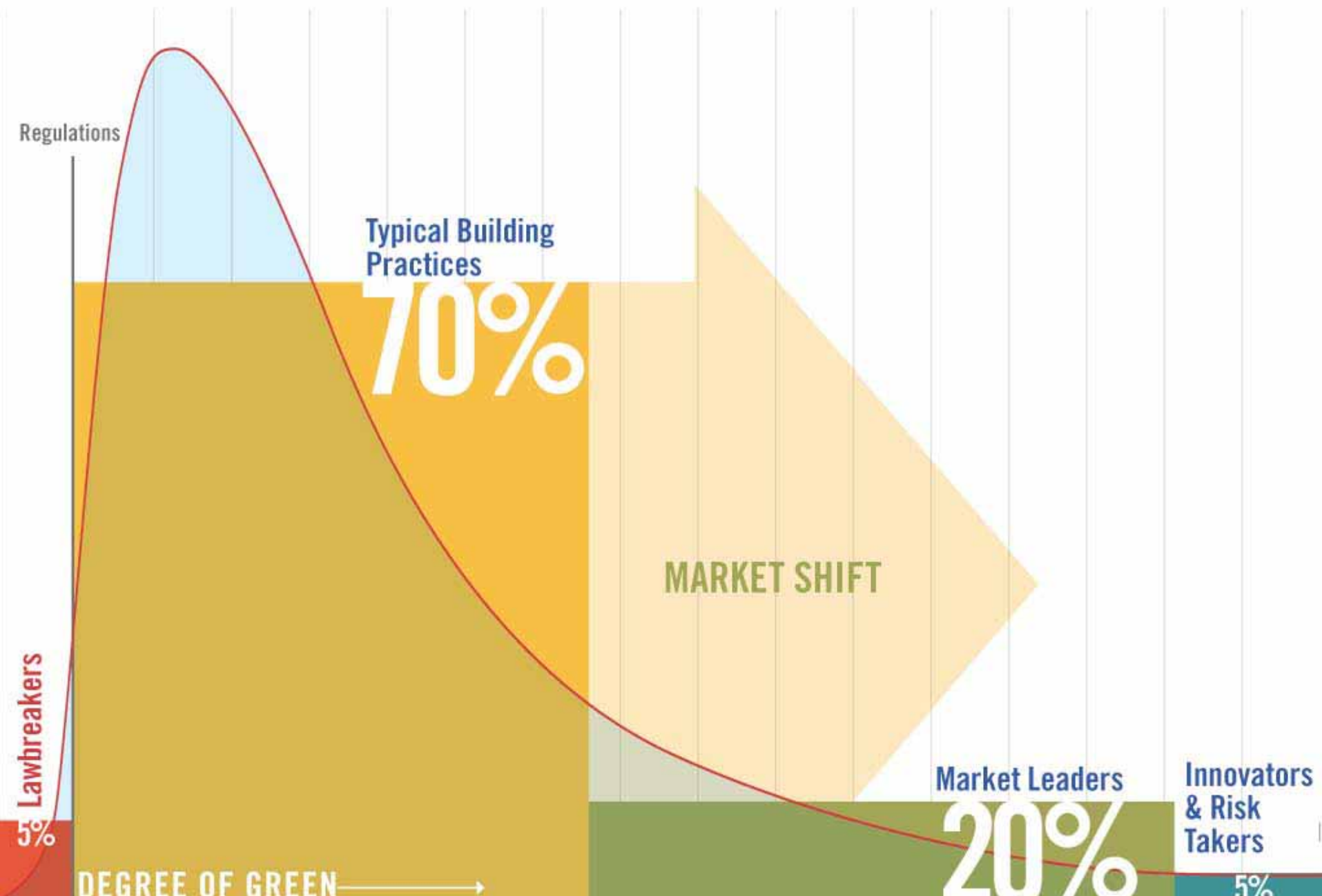
GOLD

SILVER

CERTIFIED



The Market

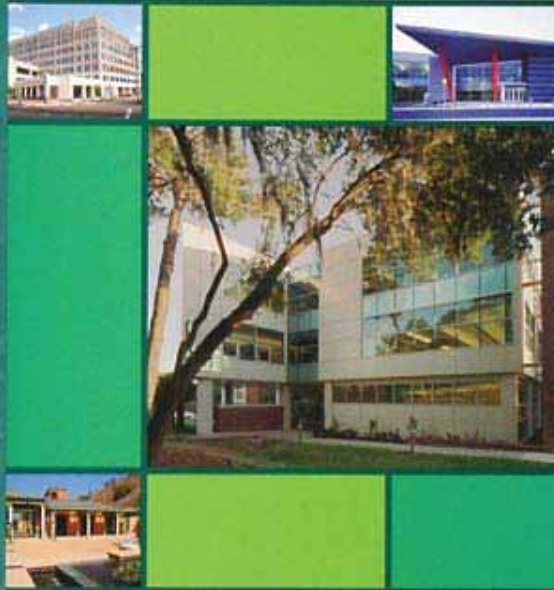


McGraw Hill
CONSTRUCTION

Green Building SmartMarket Report

Design & Construction Intelligence

2006
Green Building
Issue



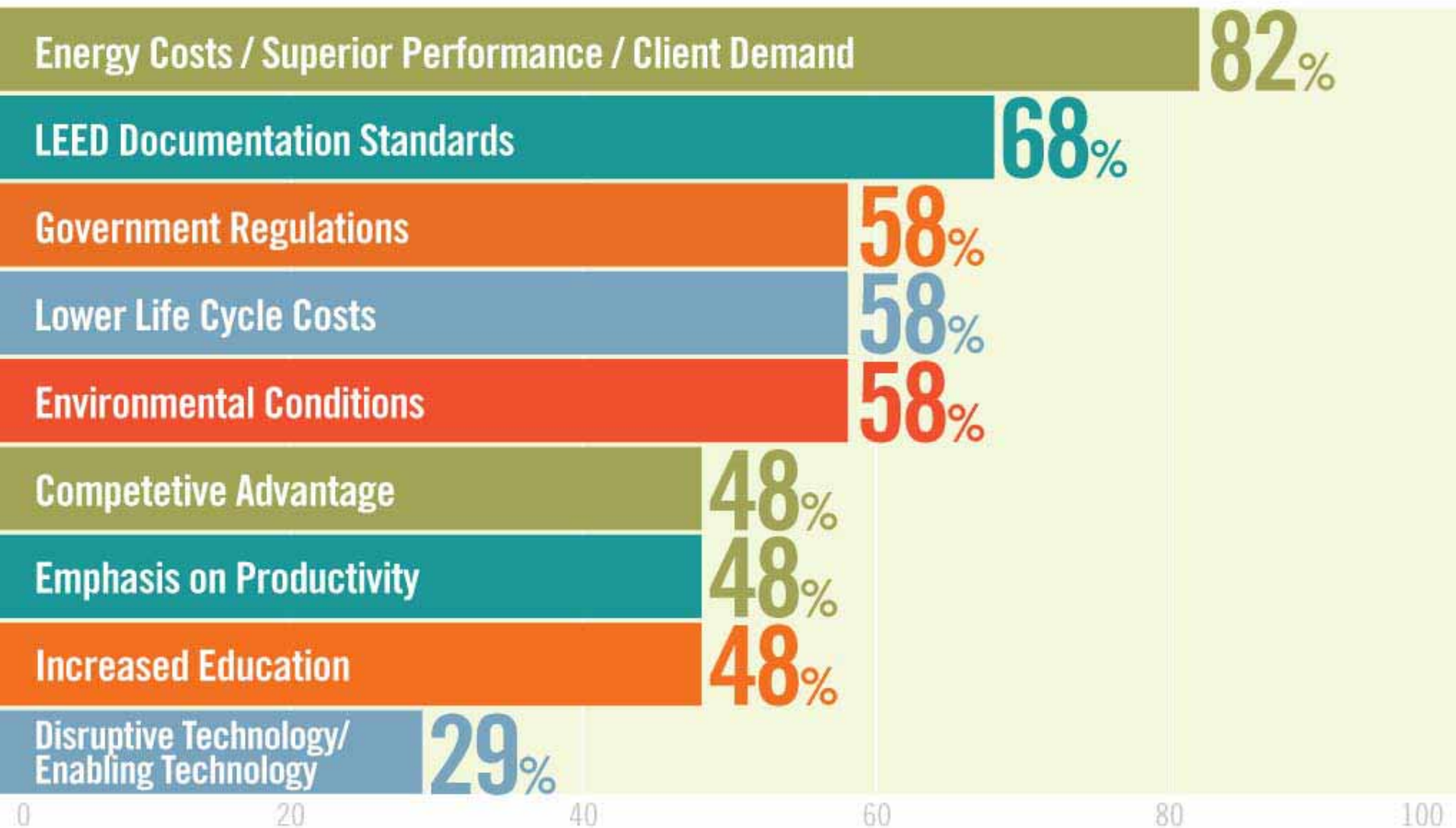
connecting people.projects.products

Produced in conjunction
with the U.S. Green
Building Council



Triggers to accelerate green building

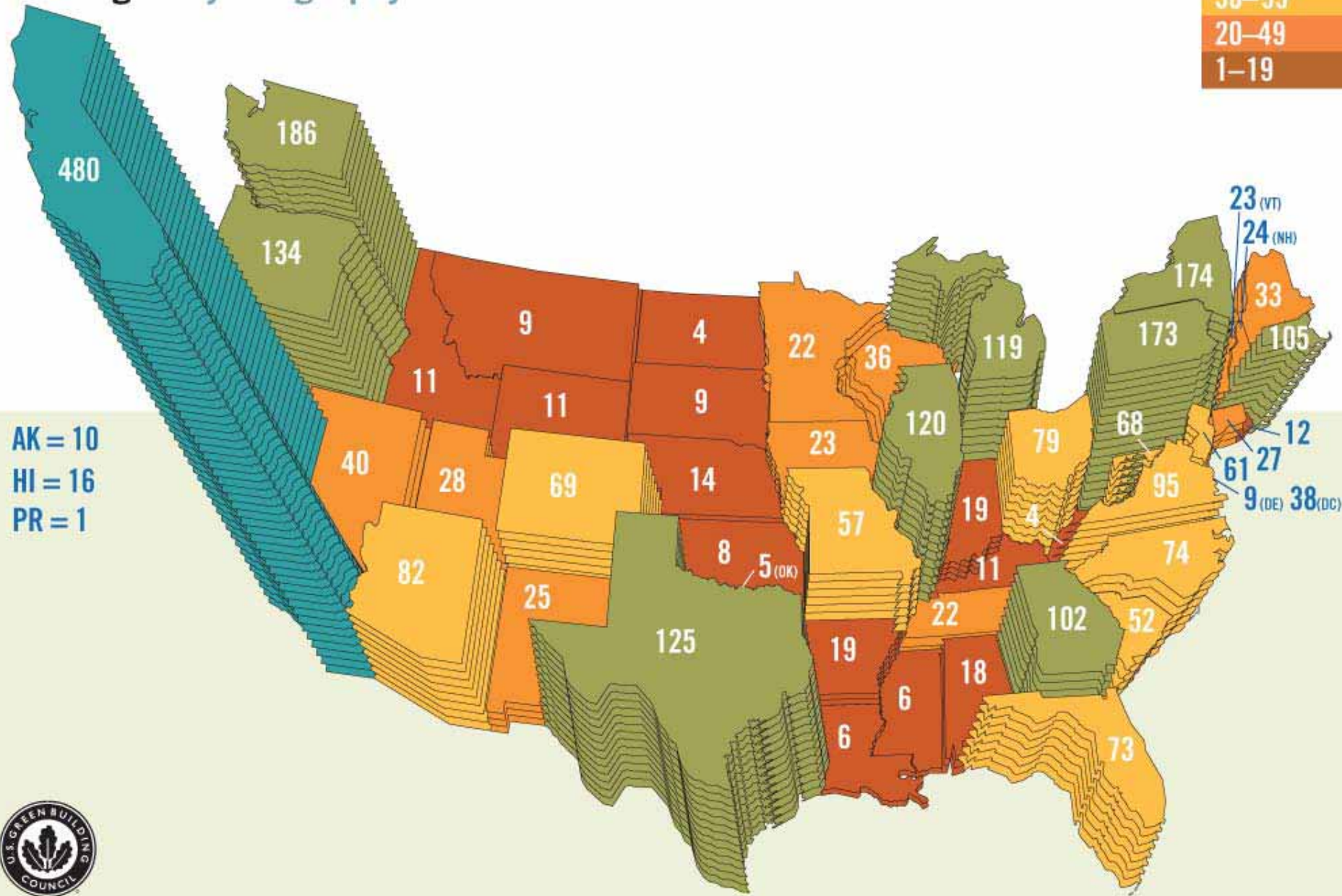
From the 2005
USGBC/McGraw-Hill Survey



LEED-NC Buildings

Distribution by Geography

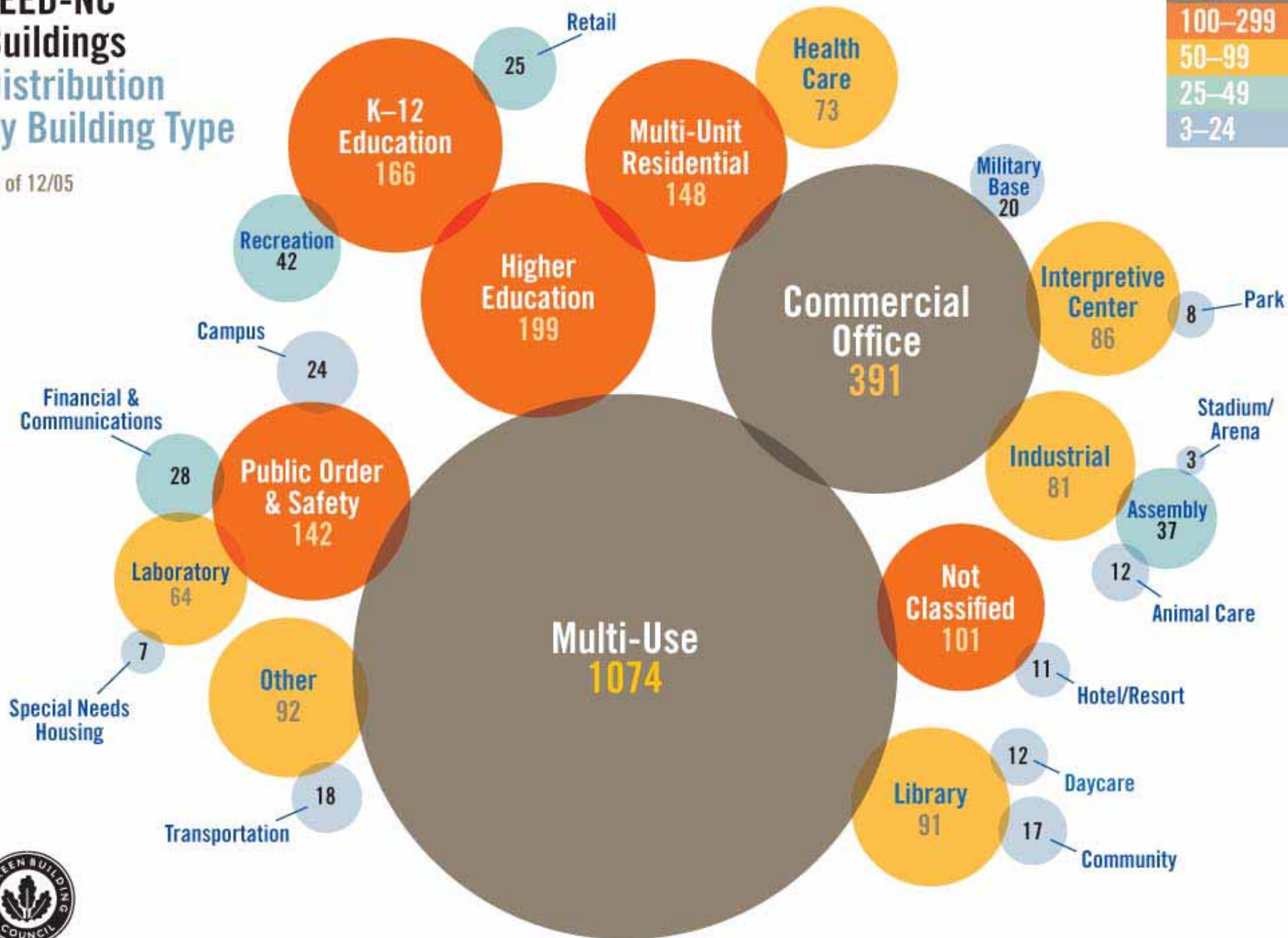
As of 12/05



LEED-NC Buildings Distribution by Building Type

As of 12/05

300 +
100–299
50–99
25–49
3–24



LEED-NC Buildings Distribution by Owner

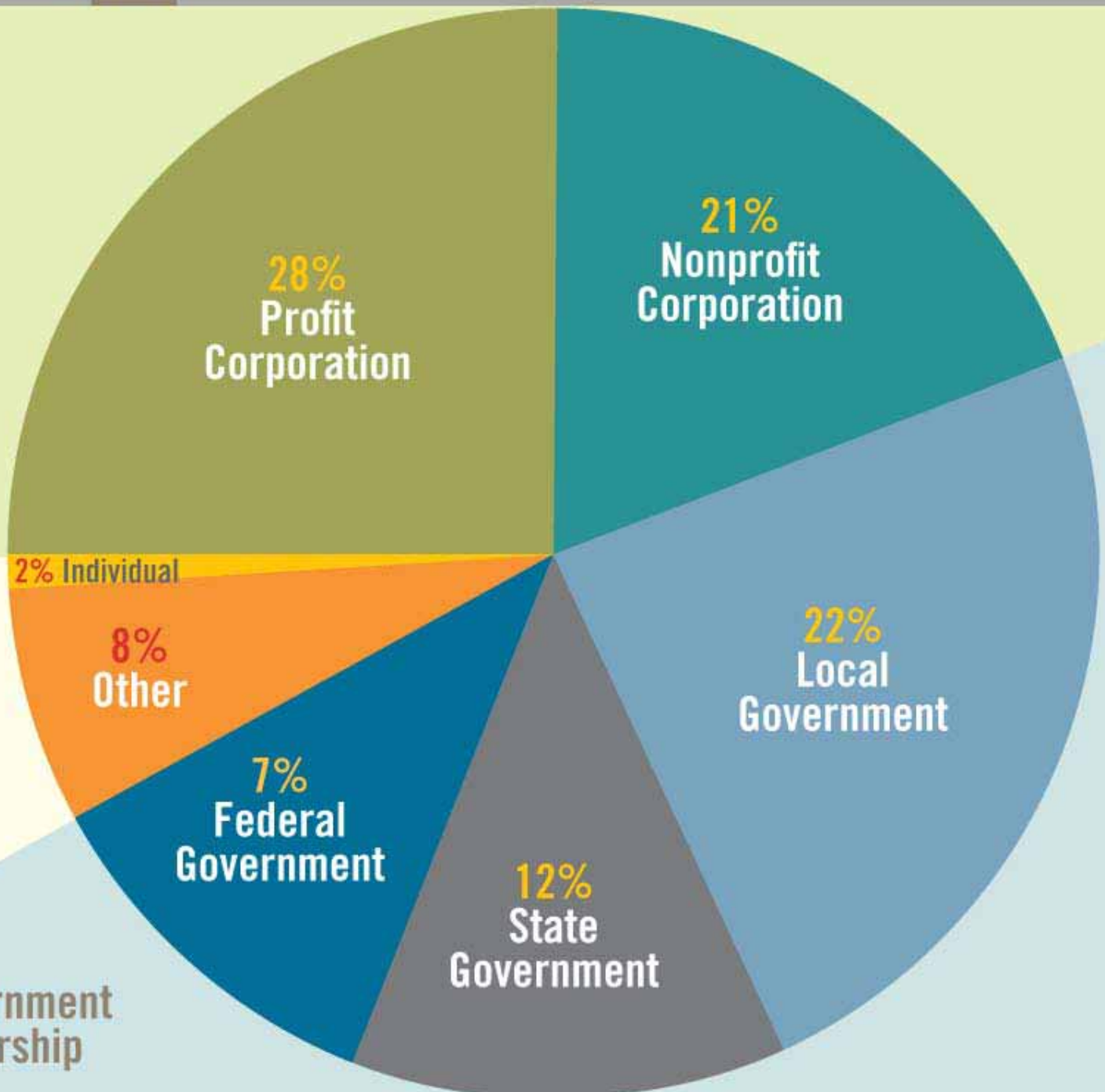
As of 12/05

49%
Corporate
Ownership

10%
Other



41%
Government
Ownership



Federal projects in the LEED pipeline total over **20 times** the area already LEED-certified.

REGISTERED

238 PROJECTS **39 MILLION** SQ FT

CERTIFIED

22 PROJECTS **1.7 MILLION** SQ FT



Case Study FAA

Seattle Terminal
Radar Approach
Control Facility
Burien WA
New construction
LEED v2 Gold
52,000 sq ft



Case Study FAA

Seattle Terminal
Radar Approach
Control Facility
Burien WA
New construction
LEED v2 Gold
52,000 sq ft

33% water
use reduction

14% energy savings
over ASHRAE 90.1-1999

Savings of 7,650 kWh and
\$420 each year expected

49% locally
fabricated manufactured
materials

80% of spaces
have daylight



Case Study National Weather Service

Weather
Forecast Office
Caribou ME
New construction
LEED v2 Silver
8,300 sq ft



Case Study National Weather Service

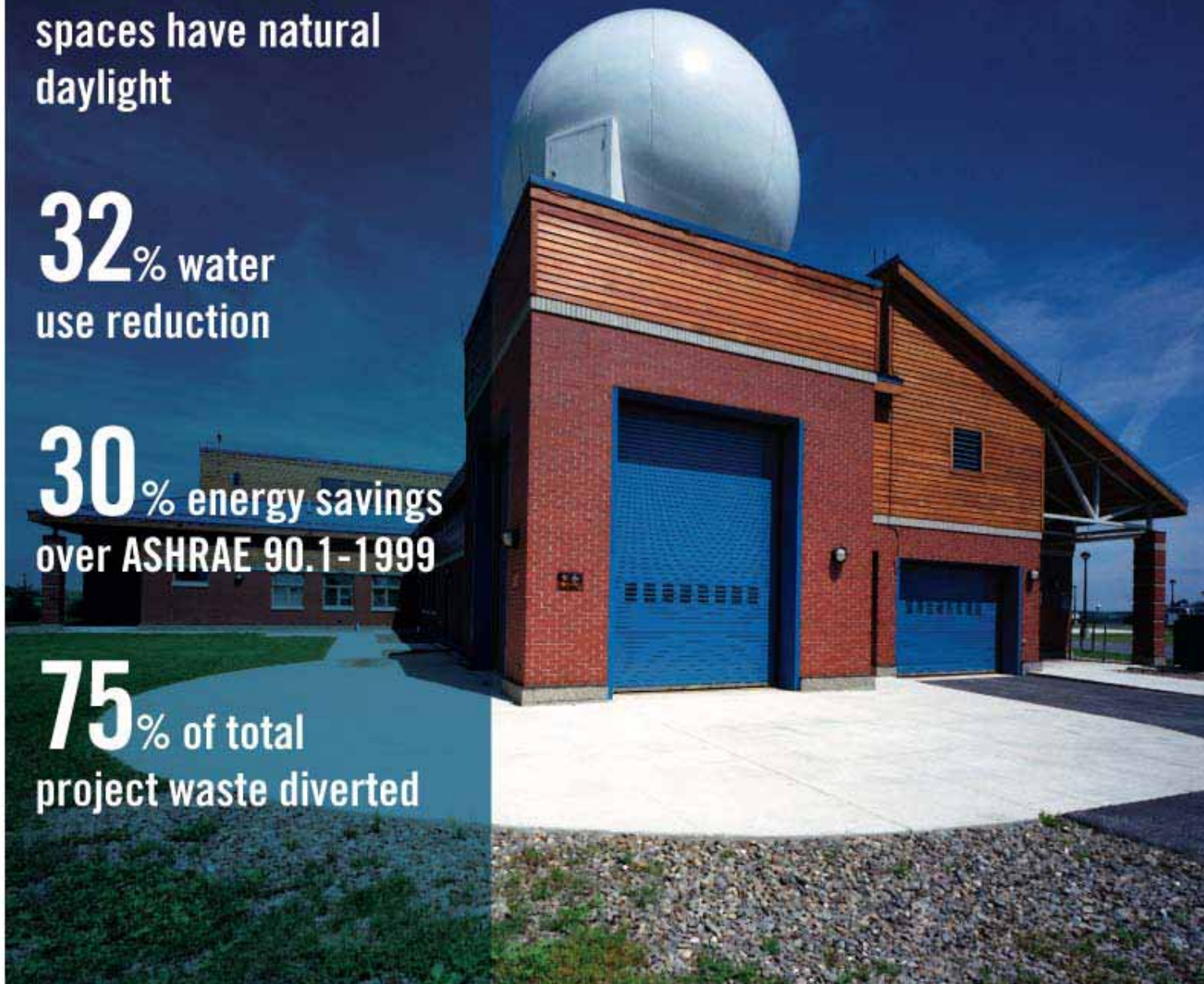
Weather
Forecast Office
Caribou ME
New construction
LEED v2 Silver
8,300 sq ft

86% of occupied
spaces have natural
daylight

32% water
use reduction

30% energy savings
over ASHRAE 90.1-1999

75% of total
project waste diverted



Case Study

U.S. Department of Transportation

Lakewood CO
New construction
LEED v2 Silver
128,000 sq ft



Case Study U.S. Department of Transportation

Lakewood CO
New construction
LEED v2 Silver
128,000 sq ft

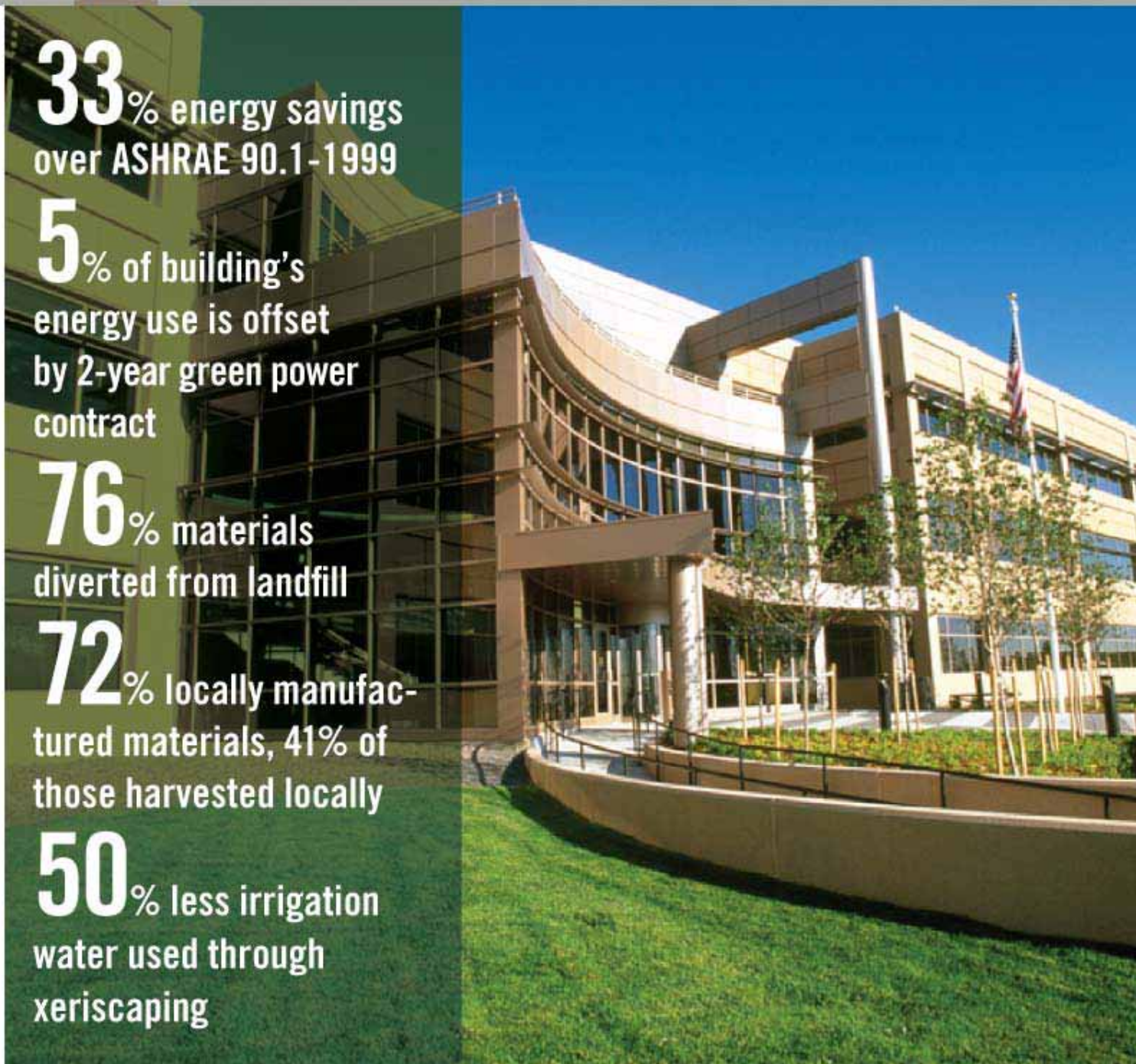
33% energy savings
over ASHRAE 90.1-1999

5% of building's
energy use is offset
by 2-year green power
contract

76% materials
diverted from landfill

72% locally manufac-
tured materials, 41% of
those harvested locally

50% less irrigation
water used through
xeriscaping



Case Study EPA

National Computer
Center (NCC)
Research Triangle
Park NC
New construction
LEED v2 Silver
100,000 sq ft



Case Study EPA

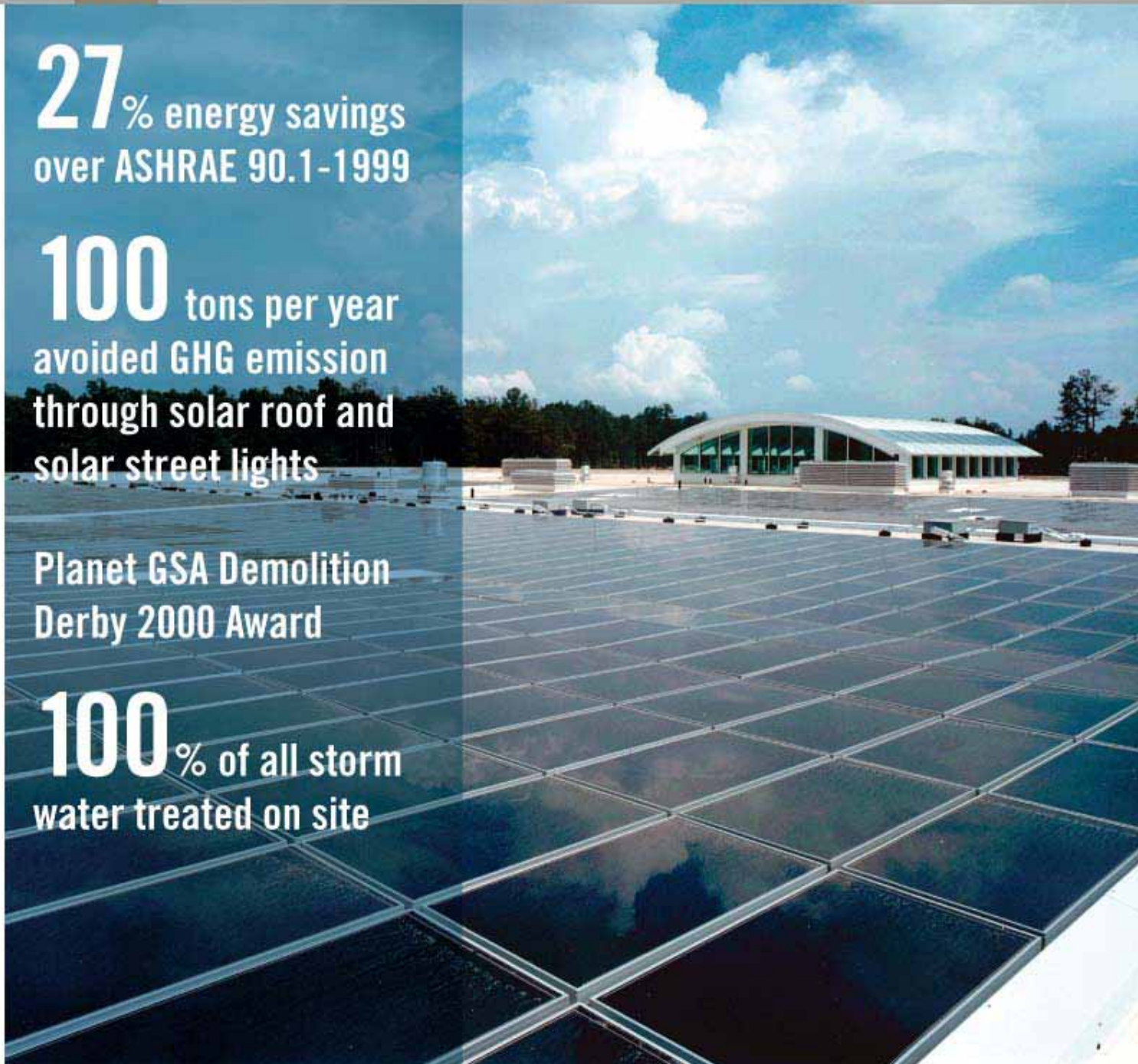
National Computer
Center (NCC)
Research Triangle
Park NC
New construction
LEED v2 Silver
100,000 sq ft

27% energy savings
over ASHRAE 90.1-1999

100 tons per year
avoided GHG emission
through solar roof and
solar street lights

Planet GSA Demolition
Derby 2000 Award

100% of all storm
water treated on site



Categories of LEED Ratings

LEED-NC

New
Construction

LEED-CI

Commercial
Interiors

LEED-EB

Existing
Building



Categories of LEED Ratings

LEED-NC New Construction

LEED-CI Commercial Interiors

LEED-EB Existing Building

LEED-CS Core & Shell

LEED-HOMES

LEED-ND Neighborhood Development

LEED Application Guides

Healthcare,
Laboratories,
Schools,
Retail,
Multi-building Campuses
Multi-family Residential

FUTURE PROGRAMS



Taking LEED to the Next Level

November 2007

Bio-regionally Weighted Credits

LCA as Basis for LEED Credits

Smart Credits

Improved Accounting for:

Energy

Ecological Sites

Transport Implications

IEQ

Health

LEED V3



LEED: Streamlined, refined, and online.

LEED-Online: Login - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://leedonline.usgbc.org/Login.aspx>

LEED

GREEN BUILDING RATING SYSTEM

Welcome to LEED-Online

The login below is designed to allow Project Administrators to

- If you are a Project Administrator, please login below.
- If you are a Project Team member, please be sure you are logged in under the account which are assigned to you.

LOGIN

LEED-Online uses the same login as the USGBC Web site. If you have any problems logging in, please contact leedinfo@usgbc.org.

Email Address:

Password:

[Forgot Password](#)

LEARN MORE ABOUT LEED RATING SYSTEMS

LEED-NC LEED-EB LEED-EB

Copyright © 2005 U.S. Green Building Council



LEED-NC 2.1 Letter Template

EA Credit 1.1-1.10: Optimize Energy Performance

(Architect, HVAC Engineer or Responsible Party)

I, , declare to USGBC the following reduction in design energy cost compared to the energy cost budget for energy systems regulated by ASHRAE/IESNA Standard 90.1-1999 (without amendments):

New Buildings	Existing Buildings
<input type="radio"/> 15%	<input type="radio"/> 5%
<input type="radio"/> 20%	<input type="radio"/> 10%
<input type="radio"/> 25%	<input type="radio"/> 15%
<input type="radio"/> 30%	<input type="radio"/> 20%
<input type="radio"/> 35%	<input type="radio"/> 25%
<input type="radio"/> 40%	<input type="radio"/> 30%
<input type="radio"/> 45%	<input type="radio"/> 35%
<input type="radio"/> 50%	<input type="radio"/> 40%
<input type="radio"/> 55%	<input type="radio"/> 45%
<input type="radio"/> 60%	<input type="radio"/> 50%

I have provided the following supplementary information to support the declaration:

☐ quantitative summary table (as per LEED reference Guide) showing the energy saving measures incorporated in the building design. The summary table includes detailed data on both design and budget assumptions.

☐ summary printout from an energy simulation package demonstrating that the design energy cost is lower than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. The summary printout contains all the information requested.

LEED:
Streamlined,
refined,
and online.

**Separate Design from
Construction Option**

Streamlined Submittal

Streamlined Audit and Review

**Ongoing Feedback and
Market Research**

On-line Workspace

The USGBC logo is centered on the slide. It consists of the letters "USGBC" in a bold, white, sans-serif font. Behind the text are several concentric circles, resembling ripples in water, which are also white and centered on the same point as the text. The background of the slide is a solid blue color with a subtle, fine-grained texture.

USGBC

Outcome:
10 guiding principles

50 specific policy recommendations and actions

Thousands of volunteer hours by USGBC Chapter volunteers

The New Orleans Principles

Celebrating the Rich History of New Orleans Through
Commitment to a Sustainable Future



